

CLAIMS OF AMENDMENT:

[Accepted by International Secretariat on March 10, 2005:
Claims 1 to 17 of the original patent application were
refused and new claims 18 to 35 were added]

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17. (Canceled)

18. (Added) A sampling rate conversion apparatus
comprising:

10 a conversion section that obtains a spectrum from
a time domain signal having an arbitrary sampling rate
through a frequency domain conversion; and

 a determining section that determines a bandwidth
of an extended spectrum which is added to said spectrum
15 and extends the bandwidth of said spectrum based on said
arbitrary sampling rate and desired output sampling rate.

19. (Added) The sampling rate conversion apparatus
according to claim 18, wherein said spectrum whose
20 bandwidth is extended is equivalent to a signal obtained
by upsampling the time domain signal having said arbitrary
sampling rate up to said desired output sampling rate.

20. (Added) A coding apparatus comprising:

25 a conversion section that obtains a spectrum from
a time domain signal having an arbitrary sampling rate
through a frequency domain conversion;

a determining section that determines the bandwidth of an extended spectrum which is added to said spectrum and extends the bandwidth of said spectrum based on said arbitrary sampling rate and desired output sampling rate;
5 a generation section that generates said extended spectrum based on said spectrum; and
a coding section that encodes said spectrum and said extended spectrum.

10 21. (Added) The coding apparatus according to claim 20, wherein said generation section generates said extended spectrum similar to said spectrum based on said spectrum.

22. (Added) The coding apparatus according to claim 20,
15 wherein said coding section divides said extended spectrum into two or more subbands and performs coding in subband units.

23. (Added) A scalable coding apparatus comprising:
20 a first coding section that encodes a first band of a voice signal or audio signal; and
a second coding section that encodes a second band of said voice signal or said audio signal,
wherein said second coding section comprises:
25 a conversion section that obtains a spectrum from a time domain signal having a first sampling rate obtained by said first coding section through a frequency domain

conversion;

a determining section that determines a bandwidth of an extended spectrum which is added to said spectrum and extends the bandwidth of said spectrum based on said
5 first sampling rate and the second sampling rate which is equivalent to said second band;

a generation section that generates said extended spectrum based on said spectrum; and

a coding section that encodes said spectrum and said
10 extended spectrum.

24. (Added) A communication terminal apparatus comprising the coding apparatus according to claim 20.

15 25. (Added) A base station apparatus comprising the coding apparatus according to claim 20.

26. (Added) A decoding apparatus comprising:

an acquisition section that acquires coding
20 information generated by a coding apparatus;

a first conversion section that obtains a spectrum from a time domain signal having an arbitrary sampling rate included in said coding information through a frequency domain conversion;

25 a determining section that determines a bandwidth of an extended spectrum which is added to said spectrum and extends the bandwidth of said spectrum based on the

sampling rate of said specific time domain signal and
a desired output sampling rate;

a generation section that generates said extended
spectrum based on said coding information; and

5 a second conversion section that obtains a time
domain signal from said spectrum and said extended
spectrum through a time domain conversion.

27. (Added) The decoding apparatus according to claim
10 26, wherein said generation section generates said
extended spectrum similar to said spectrum based on said
coding information.

28. (Added) The decoding apparatus according to claim
15 26, wherein said extended spectrum is divided into two
or more subbands and includes coding information of said
extended spectrum which is coded in subband units.

29. (Added) A scalable decoding apparatus comprising:
20 a first decoding section that decodes a first band
of a voice signal or audio signal; and

a second decoding section that decodes said second
band of said voice signal or said audio signal,

wherein said second decoding section comprises:

25 a first conversion section that obtains a spectrum
from a time domain signal of a first sampling rate obtained
by said first decoding section through a frequency domain

conversion;

a determining section that determines a bandwidth of an extended spectrum which is added to said spectrum and extends the bandwidth of said spectrum based on said
5 first sampling rate and a second sampling rate which is equivalent to said second band;

a generation section that generates said extended spectrum based on coding information generated by a scalable coding apparatus; and

10 a second conversion section that obtains a time domain signal from said spectrum and said extended spectrum through a time domain conversion.

30. (Added) The scalable decoding apparatus according
15 to claim 29, further comprising a third decoding section that decodes a third band of said voice signal or said audio signal,

wherein said third decoding section generates a spectrum from a time domain signal of said first sampling
20 rate, applies processing such as zero insertion or deletion to the high frequency part of the spectrum, obtains a spectrum of said third band and converts the spectrum of said third band to a time domain signal.

25 31. (Added) A communication terminal apparatus comprising the decoding apparatus according to claim 26.

32. (Added) A base station apparatus comprising the decoding apparatus according to claim 26.

33. (Added) A sampling rate conversion method comprising:

5 a step of obtaining a spectrum from a time domain signal having an arbitrary sampling rate through a frequency domain conversion; and

 a step of determining the bandwidth of an extended spectrum which is added to said spectrum and extends the
10 bandwidth of said spectrum based on said arbitrary sampling rate and desired output sampling rate.

34. (Added) A coding method comprising:

 a step of obtaining a spectrum from a time domain
15 signal having an arbitrary sampling rate through a frequency domain conversion;

 a step of determining a bandwidth of an extended spectrum which is added to said spectrum and extends the bandwidth of said spectrum based on said arbitrary
20 sampling rate and desired output sampling rate;

 a step of generating said extended spectrum based on said spectrum; and

 a step of coding said spectrum and said extended spectrum.

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35. (Added) A decoding method comprising:

 a step of acquiring coding information generated

by a coding apparatus;

a step of obtaining a spectrum from a time domain signal having an arbitrary sampling rate included in said coding information through a frequency domain conversion;

5 a step of determining a bandwidth of an extended spectrum which is added to said spectrum and extends the bandwidth of said spectrum based on the sampling rate of said specific time domain signal and desired output sampling rate;

10 a step of generating said extended spectrum based on said coding information; and

a step of obtaining a time domain signal from said spectrum and said extended spectrum through a time domain conversion.